

FIG. 2

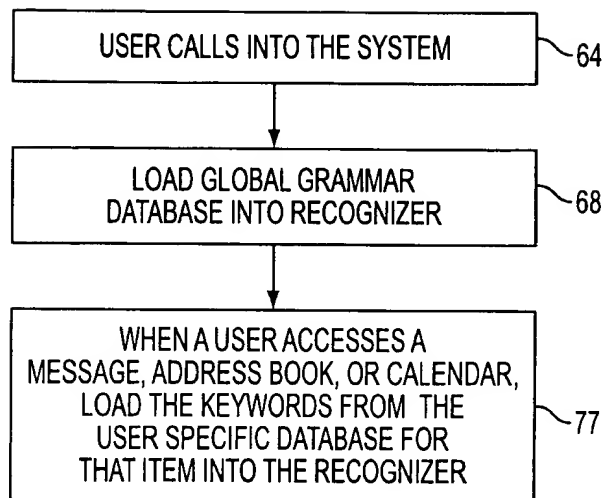
[illegible]

FIG. 3

```

graph TD
    82{HAVE KEYWORDS  
FOR THIS REPORT?} -- NO --> 84[EXTRACT KEYWORDS  
FROM TEXT]
    82 -- YES --> 86{IS REPORT A  
TEXT FILE?}
    84 --> 86
    86 -- YES --> 88[PREPARE TEXT  
FOR SPEECH SYNTHESIS]
    86 -- NO --> 90[CREATE RECORD IN NEWS DATABASE  
IDENTIFIER: FOR THIS REPORT  
CONTENTS: OF THIS REPORT  
KEYWORDS: FROM ABOVE]
    88 --> 90
    90 --> 92[UPDATE RECORD IN  
GLOBAL GRAMMAR DATABASE  
$timely_news = <list of keywords>]
    92 --> DONE([DONE])

```

FIG. 4

NEWS DATABASE

<identifier> <content> <keyword list> <when obtained>

GLOBAL GRAMMAR DATABASE

\$timely_news = <current news keywords>
\$news = ((tell me about [the]) | (what is happening in)) \$timely_news
\$weather = what is the (forecast for | weather in) \$user_weather_cities
\$trains = when are the trains to \$user_train_cities
\$flights = when are the flights to \$user_flight_cities

GLOBAL INFORMATION DATABASE

\$weather_cities = Boston | San Francisco | Paris | Tel Aviv | Somerville | ...
\$airline_cities = Boston | San Francisco | Paris | Tel Aviv | ...
\$train_cities = Boston | San Francisco | Paris | Amsterdam | ...

USER SPECIFIC DATABASE

<type> <contents> <keywords>
type = email, calendar, address book, voice mail
contents = <actual text>
keywords = <type> <value>
ktype = user_weather_city, user_train_city, user_flight_city

FIG. 5

PARSE MESSAGE TO FIND
RELEVANT PORTIONS 100

FOR EACH WORD
CONSULT GLOBAL
INFORMATION
DATABASE 102

103
WORD
FOUND?
NO
YES
DONE

GET TYPE INFORMATION
FROM GLOBAL INFORMATION
DATABASE 104

106
CREATE RECORD IN USER SPECIFIC
DATABASE AND UPDATE GRAMMAR
TYPE = EMAIL, CALENDAR OR ADDRESS BOOK
CONTENTS = MESSAGE, APPOINTMENT OR
ADDRESS BOOK ENTRY
KEYWORD LIST:
TYPE FROM GLOBAL INFORMATION
DATABASE
VALUE IS WORD FOUND IN GLOBAL
INFORMATION DATABASE
DONE

FIG. 6